CLAIMS

What is claimed is:

1. A method for communication among mobile units, comprising:

acquiring information from another mobile unit through a physical network while a vehicle is moving or stopped;

registering a mobile unit that satisfies a predetermined condition as a member of a virtual logic network based on the condition by referring to the acquired information; and

selecting a communicating party from among the members of an appropriate virtual logic network according to an event when the event takes place and communicating with the selected party.

2. The method for communication among mobile units according to Claim 1, wherein

the act of registering a member creates a member table for registering members of networks in association with the virtual logic networks and also creates a resource table for registering a capability of each member, and

the act of selecting a communicating party further comprises using the member table of the virtual logic networks and the resource table to perform communication with the selected party.

3. The method for communication among mobile units according to Claim 1, wherein the physical network is formed by exchanging predetermined information among vehicular communication apparatuses mounted in individual vehicles.

4. The method for communication among mobile units according to Claim 3, wherein the predetermined information includes at least the identity and position of a mobile unit.

5. A method for communication among mobile units, comprising:

acquiring information from another mobile unit through a physical network while a vehicle is moving or stopped;

registering mobile units that satisfy predetermined conditions as members of virtual logic networks based on the conditions by referring to the acquired information;

selecting one virtual logic network from among the plurality of virtual logic networks on the basis of an environment or situation change of a driver or a vehicle or in response to a driver's request; and

setting the selected virtual logic network as an active network.

6. The method for communication among mobile units according to Claim 5, wherein the act of registering members further comprises:

receiving information for specifying a mobile unit identity and a condition from a mobile unit, and

referring to the received information, and if the mobile unit satisfies any one of various conditions, then registering the mobile unit as a network member of a virtual network based on the condition.

7. The method for communication among mobile units according to Claim 4, wherein the act of registering members further comprises registering the capabilities of members in virtual logic networks to which they belong in association with the network members.

8. The method for communication among mobile units according to Claim 7, wherein a member table for registering members of the networks and a resource table for registering a capability of each member are created in association with virtual logic networks.

9. The method for communication among mobile units according to Claim 5, wherein a particular member is selected from among the members constituting the active network on the basis of an environment or situation change

of the driver or vehicle or in response to a driver's request, and a connection to the selected member is established to communicate with the member.

10. A vehicular communication apparatus mounted in a vehicle to communicate with another mobile unit, comprising:

an information acquirer for acquiring information from another mobile unit through a physical network while a vehicle is moving or stopped;

a registrar for registering, in a member table, a mobile unit that satisfies a predetermined condition as a member of a virtual logic network based on the condition by referring to the acquired information; and

a communicating party selector for selecting a communicating party by using the table of the virtual logic networks according to an event when the event takes place and communicating with the selected party.

11. The vehicular communication apparatus according to Claim 10, wherein

the registrar further creates a resource table for registering the capabilities of members in virtual logic networks to which they belong in association with the members, and

the communicating party selector carries out communication by using the member table of virtual logic networks and the resource table according to an event when the event takes place.

12. The vehicular communication apparatus according to Claim 10, comprising an inter-vehicle transmitter/receiver and an inter-vehicle controller.

13. The vehicular communication apparatus according to Claim 12, wherein the inter-vehicle controller has resource databases, such as a map database, a know-how database, a user profile database and an emergency database.

14. A vehicular communication apparatus mounted in a vehicle to communicate with another mobile unit, comprising:

an information acquirer for acquiring information from another mobile unit through a physical network while a vehicle is moving or stopped;

a registrar for registering mobile units that satisfy predetermined conditions as members of virtual logic networks based on the conditions by referring to the acquired information; and

a communicating party selector for selecting a particular virtual logic network from the plurality of virtual logic networks on the basis of an environment or situation change of the driver or vehicle or in response to a driver's request, setting the selected virtual logic network as an active network, and selecting a communicating party to effect communication with the selected party.

15. The vehicular communication apparatus according to Claim 14, wherein the registrar

receives information for specifying a mobile unit identity and a condition from a mobile unit, and

refers to the received information, and if the mobile unit satisfies any one of various conditions, then registers the mobile unit as a network member of a virtual network based on the condition.

16. The vehicular communication apparatus according to Claim 15, wherein

the registrar further registers the capabilities of members in virtual logic networks to which they belong in association with the individual network members.

17. The vehicular communication apparatus according to Claim 14, wherein

the registrar creates a member table for registering members of the networks in association with the virtual logic networks and also creates a resource table for registering a capability of each member.

18. The vehicular communication apparatus according to Claim 14, wherein the communicating party selector further selects a particular member from among the members constituting the active network on the basis of an environment or situation change of the driver or vehicle or in response to a driver's request, and establishes a connection to the selected member to communicate therewith.

19. A vehicular communication apparatus mounted in a vehicle to communicate with another mobile unit, comprising:

a sensor for detecting a physical condition of a driver;

a monitoring sensor for monitoring a condition in a vehicle;

a condition determiner for determining the condition of the driver on the basis of detection signals of the sensors;

an importance level determiner for determining an importance level regarding the necessity for communication with a neighbor on the basis of the condition;

an information-to-be-sent decider for deciding on information to be sent on the basis of the importance level when it is determined necessary to communicate with the neighbor; and

an information transmitter for wirelessly transmitting the information to be transmitted to the neighbor.

20. The vehicular communication apparatus according to Claim 19, further comprising:

an information receiver for receiving information wirelessly transmitted;

an importance level determiner for determining the importance level of the received information; and

an information output unit for supplying the received information if it is determined that the received information should be supplied to a user.